

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Withdrawn) A method of reducing restenosis in a patient vessel, comprising:
implanting a stent in the vessel,
the stent having a surface and a first member of a specific binding pair disposed on the surface; and a
administering locally to the patient a restenosis-inhibiting moiety comprising a second member of the specific binding pair.
2. (Withdrawn) The method of claim 1, wherein administering locally to a patient a restenosis-inhibitory moiety comprises administering locally a radioactive moiety.
3. (Withdrawn) The method of claim 1, wherein administering locally to a patient a restenosis-inhibitory moiety comprises administering locally a neutron-capture moiety, the method further comprising exposing the stent to a neutron flux.
4. (Withdrawn) The method of claim 1 wherein the first member of the specific binding pair comprises a biomolecule selected from among the group consisting of:
protein, nucleic acid, carbohydrate, lipid, RNA, DNA, antibody, antigen, epitope, lectin, receptor, ligand, avidin, streptavidin, biotin, heparin, or protamine.
5. (Withdrawn) The method of claim 1 wherein the second member of the specific binding pair comprises a biomolecule selected from among the group consisting of:
protein, nucleic acid, carbohydrate, lipid, RNA, DNA, antibody, antigen, epitope, lectin, receptor, ligand, avidin, streptavidin, biotin, heparin, or protamine.
6. (Withdrawn) The method of claim 1 wherein the first member is immobilized directly to the stent.

7. (Withdrawn) The method of claim 1 wherein the first member is immobilized to a coating disposed on the stent.

8. (Withdrawn) The method of claim 2, wherein administering locally to a patient a restenosis-inhibitory moiety comprises administering locally a radioactive moiety selected from among the group consisting of:

yttrium-90, iodine-125, iodine-132, iodine-131, iridium-192, phosphorous-32, rhenium-186, rhenium-188, holmium-166, praseodymium-142, lanthanum-140, dysprosium-165, samarium-153, copper-64, copper-67, gold-198, erbium-169, palladium-103, palladium-109, cobalt-57, cobalt-60, or vanadium-48.

9. (Withdrawn) The method of claim 3, wherein administering locally to a patient a restenosis-inhibitory moiety comprises administering locally a neutron-capture moiety selected from among the group consisting of:

actinium, boron, cadmium, cadmium-113, dysprosium, dysprosium-164, erbium, europium, europium-151, gadolinium, gadolinium-152, gadolinium-153, gadolinium-155, gadolinium-157, gold, hafnium, indium, iridium, mercury, holmium, holmium-165, plutonium, protactinium, rhodium, samarium, samarium-149, samarium-152, or thulium.

10. (Withdrawn) The method of claim 1 further comprising repeating, at least one time, the step of administering locally a restenosis-inhibiting moiety.

11. (Withdrawn) The method of claim 2 further comprising repeating, at least one time, the step of administering locally a radioactive moiety.

12. (Withdrawn) The method of claim 3 further comprising repeating, at least one time, the step of administering locally a neutron-capture moiety.

13. (Withdrawn) The method of claim 3 further comprising repeating, at least one time, the step of exposing the stent to a neutron flux.

14. (Currently Amended) A kit for inhibiting restenosis in a patient vessel, the kit comprising:

an intravascular medical device having a surface and a first member of a specific binding pair immobilized to the surface in a selected density and/or pattern, wherein the first member of the specific binding pair including[[es]] a biomolecule selected from among the group consisting of protein, nucleic acid, carbohydrate, lipid, RNA, DNA, antibody, antigen, epitope, lectin, receptor, ligand, avidin, streptavidin, biotin, heparin, or protamine; and

a perfusion catheter restenosis inhibiting moiety configured for local administration of a radioactive moiety and/or a neutron-capture moiety to the intravascular medical device after implantation at an implantation site in the patient vessel, the radioactive moiety and the neutron-capture moiety each being bound to a second member of the specific binding pair, with the second member of the specific binding pair being capable of binding to the first member that is immobilized to the surface of the intravascular medical device in the selected density and/or pattern for delivery of a selected dose of radiation to the implantation site in the patient vessel in a range from about 10³ grays to about 1000 grays for inhibition of restenosis, wherein the second member of the specific binding pair including[[es]] a biomolecule selected from among the group consisting of protein, nucleic acid, carbohydrate, lipid, RNA, DNA, antibody, antigen, epitope, lectin, receptor, ligand, avidin, streptavidin, biotin, heparin, or protamine, and wherein the restenosis inhibiting moiety is selected from among the group consisting of a radioactive moiety, or a neutron capture moiety used in combination with a radioactive moiety; and

a—perfusion—catheter—configured for local administration of the restenosis inhibiting moiety to the intravascular medical device at an implantation site in the patient vessel after implantation of the intravascular medical device.

15. (Canceled)

16. (Previously Presented) The kit of claim 14, wherein the radioactive moiety is selected from among the group consisting of:

yttrium-90, iodine-125, iodine-132, iodine-131, iridium-192, phosphorous-32, rhenium186, rhenium-188, holmium-166, praseodymium-142, lanthanum-140, dysprosium-165, samarium-153, copper-64, copper-67, gold-198, erbium-169, palladium-103, palladium-109, cobalt-57, cobalt-60, or vanadium-48.

17. (Canceled)

18. (Withdrawn) The kit of claim 14, wherein the neutron-capture moiety is selected from among the group consisting of:

actinium, boron, cadmium, cadmium-113, dysprosium, dysprosium-164, erbium, europium, europium-151, gadolinium, gadolinium-152, gadolinium-113, gadolinium-155, gadolinium-157, gold, hafnium, indium, iridium, mercury, holmium, holmium-165, plutonium, protactinium, rhodium, samarium, samarium-149, samarium-152, or thulium.

19. (Currently Amended) The kit of claim 14, the perfusion catheter for administering the radioactive moiety and/or the neutron-capture moiety restenosis inhibiting moiety being a balloon perfusion catheter.

20. (Previously Presented) The kit of claim 14, further comprising an agent for selectively disrupting the specific binding pair.

21. (Previously Presented) The kit of claim 14, wherein the first member is immobilized to a coating covering at least a part of the surface.

22. (Previously Presented) The kit of claim 14, wherein the first member is immobilized to an expandable film lining the surface.

23. (Previously Presented) The kit of claim 14, wherein the first member is immobilized by creating one or more types of chemical bonds between the first member and the surface.

24. (Previously Presented) The kit of claim 23, wherein the one or more types of chemical bonds are created between a chemical functional group possessed by the first member and a complementary functional group on the surface.

25. (Previously Presented) The kit of claim 24, wherein the complementary functional group is possessed by a linker moiety attached to the first member in order to provide a flexible linkage between the first member and the surface of the intravascular medical device, the linker being selected from among the group consisting of proteins, peptides, amino acids, ribonucleic acids, deoxyribonucleic acids, nucleosides, nucleotides, phospholipids, fatty acyl chains, carbohydrates, monosaccharides, disaccharides, polysaccharides, organic molecules, inorganic molecules, and combinations thereof.

26. (Previously Presented) The kit of claim 23, wherein the surface is derivatized by bonding to the surface chemical moieties that possess chemical functional groups capable forming a bond with the first member.

27. (Previously Presented) The kit of claim 14, wherein the second member is capable of binding to the first member irreversibly, effectively irreversibly, or reversibly.

28. (Previously Presented) The kit of claim 14, wherein the first member is a protein or glycoprotein, polypeptide, oligopeptide, or peptide, and the second member is an antibody, or a related antigen or epitope binding protein that specifically recognizes and binds the first member.

29. (Previously Presented) The kit of claim 14, wherein the first member is an epitope tag, and the second member is an antibody that specifically binds the epitope tag.

30. (Currently Amended) The kit of claim 14-15, wherein the second member is connected to a radioactive moiety via a molecular linker.

31. (Currently Amended) The kit of claim 14-15, wherein the radioactive moiety comprises a chelating group binding a radioactive atom.

32. (Currently Amended) The kit of claim 14-15, wherein the radioactive moiety comprises radioisotopes, and wherein the radioactive decay products absorbed by the patient vessel are controlled and defined by combining different radioisotopes.

33. (Currently Amended) The kit of claim 14-15, wherein the first and second members can be enzymatically or chemically cleaved.

34. (Currently Amended) The kit of claim 14-15, wherein more than one species of a first member can be immobilized, wherein the pattern and density with which different first members are immobilized are different among the one or more species of the first member, and wherein the radioactive moiety comprises radioisotopes, thereby causing different radioisotopes with distinct half-lives and decay products to be immobilized to the surface in variable pattern: and densities.

35. (Canceled)